[For general information on the distribution of soil types in India see 6: Spate AW1 India, category 116, pp. 80-92.]

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Bay, Kalara Bay, Congo Bay etc. in the North Andaman and Betapur river valley and Bomlungta river valley in the Middle Andaman.

Hydrography.

The study of the hydrography of a region includes petamology (study of rivers), limnology (lakes), cryology (snow) and geohydrology (underground water). The study of limnology and cryology of this region can be completely omitted because there is a complete absence of both lakes as well as snows or glaciers. Of the rest the geo-hydrology of the Andamans is little known because no research work regarding this aspect has been conducted.

The petmology or the study of rivers is the most important object of hydrology. The rivers are very short, non-perennial as well as torrential in character. They can better be called as streams because of their seasonal drying up and short length. The Andamans enjoy quite heavy rainfall of about 130", but because of the seasonal fall, the water-level of the streams fluctuates very greatly and in the dry season most of the rivers either do not have any water or have only a trickle of water. Little water in the river valleys may also be partially due to the pervious nature of the soil which does not help the water-table of the region to be sufficiently high. The greater as well as continuous rainfall throughout the year in the South Andaman keep the rivers almost perennial. [132] [134] [132]

The Middle Andaman has only a few little rivers and they are Betapur and Bamlangta rivers. Both of them rise from the hill ranges of the continuation of Mt. Harriet Range in Middle Andaman and flow through the longitudinal valleys, and are interrupted by a great number of spurs from both the eastern and the western hill ranges. The Betapur river rises in the north of Middle Andaman and flows towards the south with a number of tributaries from both the ranges on both the sides. Almost the whole of the northeast Middle Andaman is drained by the Betapur river and its tributaries. According to Mr. Sethi, the country from the place where the Picha Nala meets the Betapur stream, though interrupted by small hills, is almost level for 7 or 8 miles.

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CHAPTER VI

SOILS

134 Soil is the unconsolidated material on the surface of the earth. The origin of the soils has been attributed to different factors and in the early days it was a common belief that the soil is the outcome of the disintegration of the parent material. As such, the soils were believed to be very much akin to the parent material. However, the concept of soil formation has been thoroughly revolutionised by the Russian pedologist, Dokucahev in 1879 and afterwards developed by Sibirtsev in 1901, Glinka in 1914 and other Russian scientists. Dokuchaev was the first pedologist to propound the theory that a given parent material may form different soils depending upon the environmental conditions.

Soil Forming Factors

The most decisive factor regarding the distribution of soil types has been attributed neither to the parent material nor to the climatic conditions, but due to combined effects of climate, micro-organisms, topography, parent material and time, of which the first one is the most dominating factor according to the celebrated pedologist, Glinka.

According to Lang, the soil may be arranged in relation to the rain factor. So far the Andamans are concerned, the temperature does not show any appreciable regional variation but the rainfall does so. In the Andamans, the gradual decrease in rainfall is experienced as one goes from west to east and from south to north (For details see the Chapter on Climate). Besides this, the variation in rainfall is marked in a small area because of the juxtaposition of high lands and valleys. Under such conditions, the division of the Andamans into different soil regions is extremely difficult unless a detailed soil survey for the islands is undertaken. With the existing knowledge, the soils of the Andamans can be broadly divided into three types.

1. Soil of the hilly region.
2. Soil of the valley region.
3. Soil of the coastal region.

Soil of the Hilly Region

These regions are characterised by hot and humid climate. The soil is low in organic matter, strongly leached, rich in clay, and more or

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less yellow in colour. The texture (by feel) is clayey. But from the few soil samples, collected by the author, a generalisation will be far from satisfactory. Generally brick coloured soils are found over the serpentine rocks e.g. in the Saddle Peak area, Rutland and parts of Mount Harriet Range. The brick colour is evidently due to excessive leaching and consequent increase of the Fe-Al content.

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Soil of the Valley Region

The samples of the valley region were taken from Dhani Khari area in the South Andaman and the Rangat area in the Middle Andaman. The texture (by feel) is clayey having more than 50% clay. It is rich in silica. The structure is more or less of platty type. The greyish or blackish soils with considerable quantity of siliceous materials are found covering the indurated chloritic or greenstone rocks in the Middle Andaman.

Soil of the Coastal Region

There are deep penetrations of creeks of the sea into the land giving rise to the mangrove swamps (c.f. Sunderbans). It is highly saline in character giving rise to halophytic types of vegetation. The texture of the soil is coarse.

Soil Erosion

In general, the soil cover of the Andamans is not very thick (4") which is highly susceptible to erosion due to the undulating nature of topography and high rainfall. Vast tracts of forest areas are being cleared for the settlement of refugees from East Pakistan and the menace of soil erosion has shown its early indications. For a continued upkeep of the fertility of the soils, the menace of the soil erosion should be checked by careful clearance and regeneration of the forests and also by proper agricultural devices.